

DEREK CHEN

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Education

University of Texas at Austin

Austin, Texas

Bachelor of Science, Computer Science, Business Minor

2022 - 2026

Relevant Coursework: Data Structures, Algorithms and Complexity, Operating Systems, Computer Architecture, Software Engineering, Machine Learning, Linear Algebra, Discrete Mathematics, Computer Ethics, Data Warehousing, Ethical Hacking, Computer Vision, iOS Mobile Computing, Symbolic Programming

Experience

Charles Schwab

June 2025 - August 2025

Software Engineer Intern - Login Management Team

Austin, Texas

- Developed a **BigQuery-powered** authentication analytics tool querying a **GCP-hosted 72-TB** production login database, enabling investigators to trace login flows by session ID, customer ID, or device ID
- Built a **GCP-BigQuery** dashboard to process 100+ GB of daily log data (5.7M+ API requests), improving error and analytics tracking and reducing mean time to resolution by 30%
- Performed automated release validation using **GitHub Actions (Python, YAML)** to compare manifests and application configuration files between production releases, ensuring release integrity and detecting configuration drift/unexpected changes
- Created **Grafana** dashboards to monitor device recognition, mobile authentication, and fraud detection across millions of multiplatform Charles Schwab client events handling over \$10 trillion in client assets

AT&T

June 2024 - August 2024

Software Engineer Intern - Core Platforms Team

Dallas, Texas

- Resolved backend bottlenecks in the TOM platform (60k+ users) by refactoring technical debt and optimizing query patterns, cutting **Spring Boot** backend load times by **30%+**
- Integrated backend server maintenance status with UI by developing a real-time alert system using **Angular** UI components and **Spring Boot**, proactively notifying users of downtime through live database-driven warnings
- Designed and developed **AT&T Language Assist**, a multilingual communication tool leveraging OpenAI Whisper and FastAPI to enable live call translation and automatic language detection for AT&T call centers; projected to save **\$162M+** per year by reducing call wait times and interpreter costs. Pitched MVP to **CTO Jeremy Legg** after winning **1st place out of 24 teams** in the Intern Innovation Challenge

CYL-Tek

May 2023 - July 2023

Embedded Software Engineer Intern

Hsinchu, Taiwan

- Engineered a cross-platform AES-256 encryption and decryption module (**C, Python**) to securely transfer sensitive data between STM32-based smart medical IoT devices, enhancing system-level data protection and HIPAA/PDPA compliance
- Debugged and resolved a critical synchronization issue in the IoT device pairing tool (**Python**), increasing reliability across all deployed units

Projects

UT Registration Plus | TypeScript, React, CSS/SCSS, SQL, Vite

December 2023 - Present

- Developing an open source Chrome extension (**50,000+ active users**) that streamlines course registration by integrating course info, professor ratings, grade distributions, and schedule planning directly into official university pages; built with **React, TypeScript, Tailwind, Vite**, and maintained in an industry style **CI/CD** environment by a student-led team
- Navigated a complete architecture change off of previous jQuery, JavaScript, and HTML/CSS stack to support Manifest V3

Mod/Plugin Dev | Java, Gradle, Maven, SQL, APIs

June 2020 - Present

- Coded plugins, game modifications, and custom tools for Minecraft server networks and content creators, reaching over **17 million users** and driving over **6.4 billion YouTube views**
- Developed a modular Minecraft server plugin enabling players to create, manage, and compete as in-game factions, with features like territory claiming, custom enemy AI, and resource management
- Designed and implemented a backend architecture, including asynchronous operations, write-behind caching, and a robust SQL database layer, ensuring thread-safe player data management in a single-threaded server environment

CobbleGuard | TypeScript, Python, Rust, PostgreSQL

July 2025 - September 2025

- Addressed the widespread issue of unsecured online game servers by building an educational warning network, supported by an asynchronous scanner that discovers, parses, and catalogs over **3.4 million** server IPs into a **PostgreSQL** database
- Deployed an automated agent on **Oracle Cloud** built in **TypeScript** with Mineflayer API, that connects to vulnerable servers, to date delivering educational security warnings to over **1 million players** and handling queries with a responsive chat module

Technical Skills

Languages: Java, Python, JavaScript, TypeScript, C, HTML/CSS, R, SQL, Swift, Clojure

Technologies/Frameworks: Git, Node.js, React, React Native, Next, Express, Tailwind, APIs, Pandas, Google Cloud Platform (GCP), Oracle Cloud, BigQuery, MySQL, Linux, Flask, REST, Agile, CI/CD